ATTACHMENT

Rules Proposal for the Medical Body Area Network Service ("MBANS")

(Sections shown only if amended after January, 2011 filing.)

Subpart M is added to read as follows:

Subpart M—Medical Body Area Network Service (MBANS)

§ 95.1601 Scope.

This part sets out the regulations governing operation of Medical Body Area Network Services ("MBANS") devices on a secondary basis in the 2360-2390 MHz and 2390-2400 MHz bands.

§ 95.1603 Definitions.

(a) Healthcare Facility. A hospital or other establishment that offers beds for use beyond a 24 hour period in rendering medical treatment, including government hospitals such as Veterans Administration hospitals.

(b) Duly authorized healthcare professional. A physician or other individual authorized under state or federal law to provide health care services using prescription medical devices.

(c) Total Path Loss. The power attenuation of an MBANS signal as it propagates from a healthcare facility to an AMT receive antenna, including all of the effects associated with distance and the interaction of the propagating wave with the objects in the environment between the antennas, such as terrain and building blockages.

(d) Electronic key/beacon. An electronic frequency authorization/certificate generated by the MBANS coordinator and assigned to each registered healthcare facility to authorize MBANS devices within the specified healthcare facility to access some or all of the 2360-2390 MHz band, or to de-authorize such access.

(e) MBANS master transmitter. An MBANS transmitter that selects frequencies within an MBANS network.

(f) MBANS slave transmitter. An MBANS transmitter within an MBANS network for which the transmit frequency is determined by an associated MBANS master transmitter.

(g) Beacon. An electronic signal that must be received by MBANS master transmitters to convey authorized MBANS frequency information to all MBANS devices and to enable MBANS transmissions in the 2360-2390 MHz band. When an MBANS device cannot receive its associated beacon signal, it must automatically cease all radio transmissions in the 2360-2390 MHz band and operate only on default spectrum outside the 2360-2390 MHz band.

(h) MBANS control point. A single device or application present at each authorized MBANS location that validates and decodes electronic keys, propagates authorized MBANS frequency information to all MBANS master transmitters, and generates verification codes as proof of electronic key deployment.

(i) Automatic electronic key deployment. A mechanism for electronic key deployment by which the MBANS control point automatically (without human intervention) communicates with the electronic key database maintained by the MBANS Coordinator.

(j) Semi-automatic key deployment. A mechanism for electronic key deployment by which authorized MBANS frequency information is communicated from the MBANS control point to all MBANS master transmitters automatically, but communication of electronic keys and/or verification codes between the MBANS control point and the electronic key database maintained by the MBANS coordinator is not fully automatic.

(k) Standard electronic key. A unique electronic key granted to a registered healthcare facility that meets the AMT protection criteria and which has no specified time limit, does not self-expire, and shall be revoked whenever the healthcare facility no longer meets the AMT protection criteria.

(l) Time-limited electronic key. A unique and renewable electronic key that self-expires (without human intervention) at a pre-designated time, and that may be granted to a healthcare facility that fails to meet AMT protection criteria but can operate on a non-interfering provisional basis with AMT receivers as agreed by the MBANS and aeronautical telemetry coordinators. A time-limited electronic key is renewable for healthcare facilities if coordination continues to be valid.

(m) Transition plan. An MBANS re-channeling plan for a healthcare facility that defines the responsibilities and execution process for the healthcare facility to vacate all or portions of the 2360-2390 MHz band due to changes in its coordination and/or interference. A compliant transition plan must be delivered to the MBANS coordinator as a condition of registration to use any portion of the 2360-2390 MHz band. The transition plan must specify the measures necessary to meet the transition requirements compliant with these rules, and must expressly authorize the healthcare facility's MBANS equipment vendor and the MBANS coordinator, respectively, to re-channel the healthcare facility's MBANS operations out of all or portions of the 2360-2390 MHz band if necessary to remain compliant with these rules.

(n) Electronic key database. An electronic database that shall be maintained by the MBANS coordinator consisting of information regarding all 2360-2390 MHz frequency assignments and contact information for management of all healthcare facilities authorized to operate MBANS devices in the 2360-2390 MHz band. The information contained in such database shall be made readily available to the aeronautical telemetry coordinator.

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§ 95.1613 Permissible communications.

(a) MBANS transmitters may transmit data signals. All voice communications between devices, including digitized voice, are prohibited.

(b) Except for the purposes of development, testing and demonstration per § 95.1605, MBANS transmitters may transmit only information used for monitoring, diagnosing or treatment of patients by duly authorized healthcare professionals.

(c) Nothing in this Subpart shall be construed to prohibit or restrict the interconnection of MBANS transmitters with other communications systems and networks, including but not limited to, the public switched telephone network.

§ 95.1615 Spectrum use.

(a) The spectrum authorized for MBANS operation pursuant to §§ 2.106 and §95.1601 of this chapter is available on a shared basis only and will not be assigned for the exclusive use of any entity.

(b) Operation is subject to the condition that MBANS transmitters do not cause harmful interference to, and must accept interference from, stations authorized to operate on a primary basis.

(c) An MBANS system utilizing frequencies in the 2360-2390 MHz band must employ an electronic key/beacon mechanism that (i) automatically disables MBANS transmissions in the 2360 – 2390 MHz band in the event an MBANS transmitter is moved outdoors from a registered healthcare facility; (ii) enables MBANS transmissions in specific portions of the 2360-2390 MHz band for all master and slave MBANS transmitters located at the same registered healthcare facility; (iii) provides a verification mechanism confirming that the electronic key is operational and that the current MBANS operating frequency is within the band authorized by the electronic key; and (iv) is capable of commanding or being commanded to cease all operations over any and all frequencies in the 2360-2390 MHz band. Electronic key/beacon control is not required for MBANS devices permanently configured to operate only in the 2390-2400 MHz band.

(d) Use of MBANS devices outside the buildings of healthcare facilities, such as to provide for home and ambulance healthcare, including airborne ambulance healthcare, shall be limited to the 2390-2400 MHz band. Such operations may be conducted without coordination.

(e) Healthcare facilities may use the 2390-2400 MHz band for MBANS operations without prior coordination. However, those healthcare facilities that are classified as hospitals, as defined at Section 1861 of the Social Security Act, 42 U.S.C. §1395x(e), must register with the MBANS coordinator prior to using the 2390-2400 MHz band.

. (f) The MBANS coordinator shall be required as a condition of its certification by the Commission to: (i) register healthcare facilities; (ii) timely manage and update the MBANS electronic key database to effect default/re-channeling, in accordance with these Rules; and (iii) approve transition plans that are compliant with Section 95.1603(m). The MBANS coordinator shall ensure that healthcare facilities with time-limited electronic keys automatically lose access

to any portion of the 2360-2390 MHz spectrum that, notwithstanding any prior MBANS coordination, becomes unusable for MBANS operations due to changes in AMT operations prior to the scheduled expiration of a time-limited key.

(g) The following additional conditions shall apply to MBANS operations in the 2360-2390 MHz band:

(A) MBANS devices may be operated beyond line of sight ("LOS") from the nearest AMT receiving antenna as determined by the MBANS coordinator without prior coordination but with prior notification, and the provision of registration information including geographic coordinates, by the MBANS coordinator to the aeronautical telemetry coordinator. Healthcare facilities in this category can use standard electronic keys with semi-automatic deployment.

(B) MBANS devices may be operated within LOS of an AMT receive antenna utilizing frequencies in the 2360-2390 MHz band only if the location, operation, and estimated number of co-frequency devices operating within a building or aggregation of closely located buildings have been analyzed and recommended by the MBANS coordinator, and upon review that analysis and recommendation are concurred in by the aeronautical telemetry coordinator. In reviewing the analysis, the aeronautical telemetry coordinator shall concur with any such location and operation that it determines to be non-interfering using ITU-R Recommendation M. 1459 and other good engineering practices as determined by a methodology agreed to jointly by the MBANS coordinator and the aeronautical telemetry coordinator. Healthcare facilities in this category can use standard electronic keys with semi-automatic deployment.

(C) In any instance in which agreement is not reached based on the engineering analysis referenced in (B), upon request of the MBANS coordinator the parties shall cooperate in good faith to obtain and/or review measurements from the location in question. If the aeronautical telemetry coordinator concurs, the operation shall be permitted where the total path loss is demonstrated by those measurements to provide protection of the AMT receive antenna in question to a level of 149 + 10*log (T/(1mW/MHz)) dB or better, where T is the average transmission power spectrum density within the AMT bandwidth aggregated from all LOS MBANS operations at the subject location radiated in the direction of the AMT receive antenna in mW/MHz. Healthcare facilities in this category can use standard electronic keys with semi-automatic deployment.

(D) If, after completion of the steps referenced above, LOS propagation with insufficient path loss to satisfy (B) or (C) is determined to exist for a particular proposed MBANS location, the aeronautical telemetry coordinator shall, upon request and in good faith, consider means to permit limited operation of the MBANS devices on some or all of the 2360-2390 MHz spectrum for some or all of the time. For example, if an AMT receiver uses 2370-2380 MHz, upon request by the MBANS coordinator, the aeronautical telemetry coordinator shall determine whether 2360-2370 and 2380-2390 MHz, or some subset thereof, could be used practicably for MBANS operations. Similarly, if AMT use is not anticipated for a given period of hours, days, weeks or months, the aeronautical telemetry coordinator shall seek

means to permit operation by MBANS transmitters during the period that AMT is not anticipated to be using the spectrum; provided, however, that in any such case the MBANS devices to be deployed have a means to reliably limit their operation to the period coordinated; and provided further, that the devices can be re-channeled by remote access through electronic means to 2390-2400 MHz. The MBANS coordinator shall update the electronic key database to reflect the re-channeling specified by the aeronautical coordinator within 24 hours of notice. Healthcare facilities in this category can use ONLY time-limited electronic keys with automatic electronic key deployment and shall have a predefined compliant transition plan on file with the MBANS coordinator.

(E) In the event a healthcare facility or the MBANS coordinator is notified of MBANS interference to an AMT receive antenna, the healthcare facility shall ensure that the interfering MBANS network or networks immediately cease transmissions on the frequencies causing interference. Each MBANS network shall have the capability to be limited to a subset of the 2360-2390 MHz band already coordinated with the electronic key. The MBANS coordinator shall update the electronic key database to reflect the desired operation. A predefined compliant transition plan shall be on file with the MBANS coordinator.

(F) In the event AMT operations are planned for a location not previously used for this purpose and such location is within LOS of an existing MBANS-equipped healthcare facility, the AMT operator shall consider whether there is a location NLOS of the MBANS-registered healthcare facility which would suit its (the AMT operator's) purposes. If the AMT operator determines in its discretion that an alternative location is not practical, then at the time specified by the AMT coordinator, but in no event upon less than 7 days' notice to the MBANS coordinator, the healthcare facility's MBANS operations shall be defaulted to the 2390-2400 MHz band. Upon receipt of such notice, the healthcare facility may also seek coordination with the new or mobile AMT facility in accordance with subsections (A) through (E) and (G) of this Subsection, as appropriate. To facilitate coordination, the affected MBANS-registered healthcare facility shall disclose to the MBANS and AMT coordinators the channels in use. Until and unless successfully coordinated, the healthcare facility shall utilize only frequencies in the 2390-2400 MHz band.

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§ 95.1619 Labeling requirements.

(a) MBANS master transmitters shall be labeled as provided in Part 2 of this chapter and as an additional requirement shall bear the following statement in a conspicuous location on the device: "This device may not interfere with primary stations and must accept any interference received, including interference that may cause undesired operation."

(b) Where an MBANS master transmitter is constructed in two or more sections connected by wire and marketed together, the statement specified in this section is required to be affixed only to one section.

(c) The statement specified in this section, the FCC Identifier associated with the transmitter and the information required by Section 2.925 of this chapter may be placed in the instruction manual for the transmitter on the first page in all caps if it cannot be affixed permanently and conspicuously on the transmitter or one of its component sections.

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Conforming amendments to other Parts of the FCC's Rules

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§ 95.626 MBANS Transmitter Frequencies

MBANS transmitters may operate on any frequency within the 2360-2400 MHz band, subject to locations authorized in accordance with §§ 95.1607 and 95.1615, provided that the out-of-band emissions are attenuated in accordance with § 95.635.